### **APPENDIX 13**



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III 1650 Arch Street

1650 Arch Street Philadelphia, Pennsylvania 19103-2029

JUL 1 2010

The Honorable Doug Domenech Secretary Department of Natural Resources 1111 East Broad Street Richmond, Virginia 23219

Dear Secretary Domenech:

I thank you for your continued commitment to the Bay restoration partnership. As we develop the Chesapeake Bay Total Maximum Daily Load (TMDL) and Watershed Implementation Plans (WIPs), we have faced some challenging issues. It is critical that the Partnership remain strong as we work through any remaining differences and show the citizens of the watershed that we can deliver on our commitments, complete a TMDL by the end of 2010, and put forth aggressive, defensible implementation plans that will put in place all necessary actions, by no later than 2025, to fully restore the Bay and tidal rivers – with an interim goal of 60% or more being accomplished by 2017.

As I have said before, restoring the health of the Bay and our rivers will not be easy. If it were, we would have completed the necessary restoration actions long ago. Every one of the Bay jurisdictions has a significant role to play. Fortunately, through the Chesapeake Bay Program partnership, we have a scientific understanding of the Bay ecosystem that is the envy of other restoration efforts around the U.S. and the world. In addition to abundant scientific information and monitoring data, we have state-of-the-art computer models that provide us with an irreplaceable tool to help guide and formulate our restoration efforts and inform our actions. But the models are just that — tools. Armed with these tools, we, the senior policy makers that represent the Bay watershed partners, must decide upon the actions necessary to meet our restoration commitments.

I wish to emphasize that the ongoing Bay restoration effort will be an adaptive process. We have afforded opportunities in the schedule to make corrections and adjust course as necessary while we continue to learn from the science and the results of our restoration actions.

We are at a critical point in the Bay Partnership and our combined restoration effort. It is imperative as we move forward, that we meet our commitments, measure continued progress toward our goals, and confirm for the public that we will fully restore the health of the Chesapeake Bay and rivers. I welcome the opportunity to work closely with you and the other Bay restoration partners to finalize the Bay TMDL and advance implementation actions.

In earlier correspondence, EPA notified the Bay watershed jurisdictions that we would provide draft allocations for nitrogen and phosphorus for each jurisdiction by July 1, 2010. I write to you today in fulfillment of that commitment. Also note that by August 15, I will notify the jurisdictions of their draft sediment allocations. I want to thank the many dedicated staff within each of the jurisdictions and EPA who have labored many long hours to develop these draft allocations. The enclosed tables detail the jurisdictions' major river basin nitrogen and phosphorus draft allocations in the Bay and its tidal rivers as well as a "temporary reserve" that may be revised or removed in 2011 when Phase II WIPs are developed (see Temporary Reserve section below for further explanation).

As you review these draft nutrient allocations, it is important to keep in mind several key assumptions behind their development and how we expect they will be used as we move forward with the development of the Bay TMDL and the jurisdictions' WIPs.

#### Nutrient Allocations and Potential for Modification

The nitrogen and phosphorus draft allocations included with this letter are intended to be used to inform the jurisdictions of their WIP development. They may be modified subject to EPA's review of each jurisdiction's draft and final WIPs [see Tables 1 and 2]. EPA may also modify these draft allocations in the draft or final TMDL to reflect input received during the TMDL public review period and the agency's review of the implementation framework provided in the jurisdictions' WIPs.

The draft allocations are also subject to change based upon refinements in 2011 to the Phase 5.3 Chesapeake Bay Watershed Model as requested by the jurisdictions. As stated in my recent letter on June 11, 2010, any adjustments to draft allocations as a result of the agreed upon watershed model refinements to address nutrient management effectiveness and suburban land use will be incorporated into the Phase II WIP development and submission process in 2011. EPA does not expect to pursue making further modifications to the Phase 5.3 model prior to the 2017 Phase III WIP development process.

#### Water Quality Standards

EPA developed the draft nutrient allocations provided with this letter under the assumption that the jurisdictions with Bay tidal waters – Maryland, Virginia, Delaware and the District of Columbia – would adopt currently proposed water quality standards revisions by the date the final TMDL is established. These revisions would incorporate the proposed Bay criteria assessment and designated uses refinements contained in the fifth addendum to the original 2003 Chesapeake Bay water quality criteria document issued by EPA in May, 2010. This Bay criteria addendum reflects the latest scientific findings and technical advances in the application and assessment of Bay water quality criteria. The draft allocations also assume that Maryland will soon propose (and timely adopt) modifications of its water quality standards regulations to include a lower Chester River deep-channel restoration variance, to recognize the periodic presence of a deep-water use in the South, Severn and Magothy Rivers, and to include a site-specific dissolved oxygen criterion for the Pocomoke River. The draft allocations also assume that, in addition to the jurisdictions' timely adoption of these water quality standards revisions,

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EPA has sufficient time to perform the necessary review of these revisions and ultimately approves them as consistent with the Clean Water Act. If the jurisdictions do not adopt these revised standards, or if EPA does not approve them by the time the final TMDL is established, EPA would establish the Bay TMDL based on alternative draft allocations reflective of the states' and District's existing Bay water quality standards. EPA is working in close cooperation with each of these four jurisdictions and will ascertain the need for alternative draft allocations if obstacles are encountered.

#### **EPA Expectations for WIPs**

EPA has clearly articulated its expectations for the jurisdictions' WIPs in correspondence issued on November 4, 2009, in the April 2, 2010 document entitled A Guide for EPA's Evaluation of Phase I Watershed Implementation Plans, and through periodic calls and webinars. We will continue to use the expectations contained in those documents and communications to ascertain the adequacy of jurisdictions' draft and final WIPs. EPA has been working closely with staff in all seven jurisdictions to assist in WIP development and will continue to do so over the ensuing months. In addition, we have made substantial technical and financial resources available to assist in the WIP development process.

#### Potential Federal Backstop Actions

In a letter dated December 29, 2009, I summarized several potential actions that EPA could pursue to "ensure that jurisdictions develop and implement appropriate Watershed Implementation Plans, attain appropriate two-year milestones of progress, and provide timely and complete information to an effective accountability system for monitoring pollutant reductions." EPA intends to work closely and cooperatively with the jurisdictions in the development of effective implementation programs in line with the previous guidance. The capacity still exists for each jurisdiction to work with EPA staff to evaluate various "what if" scenarios to achieve the necessary nutrient reductions. However, in the event that WIP submittals to EPA are inadequate to ensure continued progress and fulfillment of the Partnership's commitments to achieve Bay water quality standards and implement the TMDL's allocations, EPA is prepared to take appropriate "backstop" actions as necessary.

#### Schedule

On June 11, 2010, I sent representatives of the seven Bay watershed jurisdictions a letter containing a revised schedule for development of the Bay TMDL and all three phases of the WIPs. EPA has adjusted the schedule, where possible, to provide additional time and flexibility to address concerns raised by partners at the April 2010 Principals' Staff Committee (PSC) meeting as well as in individual follow-up discussions. In keeping with that schedule, I am today providing you with the basinwide, jurisdictional, and major river basin draft allocations for nitrogen and phosphorus. By August 15, I will provide the basinwide, jurisdictional, and major river basin draft allocations for sediment. By September 1, EPA expects jurisdictions to submit draft WIPs which sub-allocate these nutrient and sediment jurisdictional and major river basin draft allocations among source sectors and the 92 Bay TMDL segmentsheds. After review of the respective state's Phase I WIPs and allocations, EPA would propose for comment (on September

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24 for a 45-day public comment period) the draft Bay TMDL. The draft TMDL's allocations will be informed by the information in the jurisdictions' WIPs and EPA anticipates the TMDL's allocations would be consistent with the jurisdiction's WIP allocations if EPA determines they are set at a level necessary to implement the applicable water quality standards. Following the completion of the public comment period, EPA expects the jurisdictions to revise their WIPs as necessary and submit final WIPs to EPA by November 29. EPA expects the jurisdictions to submit their Phase II and III WIPs, with revisions to the jurisdiction's allocations, according to the schedule included in my letter of June 11, 2010.

#### Temporary Reserve

As discussed at the April 29-30, 2010 PSC meeting and further described in the June 11, 2010 letter, EPA has included a separate Temporary Reserve, for both nitrogen and phosphorus, of five percent for each jurisdiction that will be applied for purposes of WIP development and incorporating "contingency actions" [see Table 3]. EPA expects jurisdictions to incorporate contingency actions into their WIPs as a separate suite of actions to be undertaken in the event that the 2011 refinements to the Phase 5.3 Chesapeake Bay Watershed Model result in draft allocations lower than those provided with this letter. Contingency actions should be described in similar detail to implementation actions included in the jurisdiction's WIPs for the 2017-2025 timeframe.

This Temporary Reserve has been included to account for the possibility that the 2011 refinements to the Phase 5.3 Chesapeake Bay Watershed Model result in draft allocations to the jurisdictions lower than those provided in this letter.

The additional five percent Temporary Reserve was derived based on two main factors: 1) the basinwide nitrogen draft allocation changed approximately five percent when transitioning from Phase 5.2 of the Chesapeake Bay Watershed Model (approximately 200 million pounds in fall 2009) to Phase 5.3 (approximately 187 million pounds currently), therefore, the additional model revisions are not expected to result in changes to draft allocations that are any greater than that extent; and 2) very preliminary, rough cut, model runs suggest that the two forthcoming refinements to the model will alter basinwide nutrient draft allocations by five percent or less.

Depending on the results of the 2011 model refinements, the Temporary Reserve will be revised or removed as appropriate during the 2011 Phase II WIP development process. In parallel, if needed, jurisdictions can submit for public comment and EPA approval any proposed modifications to the Bay TMDL draft allocations.

#### Establishing the Allocation for Air Sources

It is important to note that the basinwide nitrogen allocation identifies 15.7 million pounds of atmospheric deposition loads direct to Chesapeake Bay and tidal tributary surface waters. EPA anticipates that this loading cap will be achieved through implementation of federal Clean Air Act regulations by EPA and the states through 2020. Projected reductions in atmospheric nitrogen deposition loads to the surrounding watershed over this same time period are already accounted for within the individual jurisdiction and major river basin nitrogen draft

allocations. Any additional nitrogen reductions realized through more stringent air pollution controls at the jurisdictional level, beyond minimum federal requirements, may be credited to the individual jurisdictions through future revisions to the jurisdictions' WIPs, two-year milestones, and the Bay TMDL tracking and accounting framework.

I appreciate your willingness to work in partnership with EPA to develop the Chesapeake Bay TMDL and Watershed Implementation Plans that will ensure that the Bay and rivers are restored. I look forward to working with you to advance our mutual Bay restoration goals. If you have any questions regarding the draft allocations presented with this letter or the TMDL development process, please do not hesitate to contact me or the Mrs. LaRonda Koffi, Virginia State Liaison, at (215) 814-5374.

Sincerely,

Shawn M. Garvin

Regional Administrator

#### **Enclosures**

Table 1 - Chesapeake Bay Watershed Nitrogen and Phosphorus Draft Allocations by Basin

Table 2 - Chesapeake Bay Watershed Nitrogen and Phosphorus Draft Allocations by Jurisdiction

Table 3 - Chesapeake Bay Watershed Nitrogen and Phosphorus Temporary Reserve by Jurisdiction

cc: State and D.C. Agency PSC Representatives

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|  | Nitrogen Draft Allocations | Phosphorus Draft Allocations             |
|--|----------------------------|--|
| Basin/Jurisdiction                                   | (million pounds per year)  | (million pounds per year)                |
| SUSQUEHANNA  |                            |  |
| NY   | 8.23                       | 0.52                                     |
| PA   | 71.74                      | 2.31                                     |
| MD   | 1.08                       | 0,05                                     |
| SUSQUEHANNA Total                                    | 81.06                      | 2.88                                     |
|  | NEW COLOR                  |  |
| EASTERN SHORE  |                            |  |
| DE   | 2.95                       | 0.26                                     |
| MD   | 9.71                       | 1.09                                     |
| PA PA  | 0.28                       | 0.01                                     |
| VA   | 1.21                       | 0.16                                     |
| EASTERN SHORE Total                                  | 14.15                      | 1.53                                     |
|  |                            | * National Control                       |
| WESTERN SHORE  |                            | 2020-00-00-00-00-00-00-00-00-00-00-00-00 |
| MD   | 9.74                       | 0.46                                     |
| PA   | 0.02                       | 0.001                                    |
| WESTERN SHORE Total                                  | 9,76                       | 0.46                                     |
| PATUXENT   |                            |  |
| MD   | 2.85                       | 0.21                                     |
| PATUXENT Total                                       | 2.85                       | 0.21                                     |
|  |                            |  |
| POTOMAC  |                            |  |
| PA   | 4.72                       | 0.42                                     |
| MD   | 15.70                      | 0.90                                     |
| DC   | 2.32                       | 0.12                                     |
| VA   | 17.46                      | 1.47                                     |
| WV   | 4.67                       | 0.74                                     |
| POTOMAC Total  | 44.88                      | 3.66                                     |
| RAPPAHANNOCK .                                       |                            | · · · · · · · · · · · · · · · · · · ·    |
| VA   | 5.84                       | 0.90                                     |
| RAPPAHANNOCK Total                                   | 5.84                       | 0.90                                     |
|  |                            |  |
| YORK   |                            |  |
| VA   | 5,41                       | 0.54                                     |
| YORK Total   | 5.41                       | 0.54                                     |
| JAMES  |                            |  |
| VA   | 23.48                      | 2.34                                     |
| wv   | 0.02                       | 0.01                                     |
| JAMES Total  | 23.50                      | 2,35                                     |
|  |                            |  |
| Total Basin/Jurisdiction Draft Allocation            | 187.44                     | 12,52                                    |
| Atmospheric Deposition Draft Allocation <sup>1</sup> | 15.70                      |  |
|  |                            |  |

<sup>&</sup>lt;sup>1</sup> Cap on atmospheric deposition loads direct to Chesapeake Bay and tidal tributary surface waters to be achieved by federal air regulations through 2020.

| Jurisdiction/Basin                                  | Nitrogen Draft Allocations<br>(million pounds per year) | Phosphorus Draft Allocations (million pounds per year) |
|---|---|--|
|   |   |  |
| PENNSYLVANIA  |   |  |
| Susquehanna   | 71.74   | 2.31   |
| Potomac   | 4.72  | 0.42   |
| Eastern Shore                                       | 0.28  | 0.01   |
| Western Shore                                       | 0.02  | 0.001  |
| PA Total  | 76.77   | 2.74   |
|   |   |  |
| MARYLAND  |   |  |
| Susquehanna   | 1,08  | 0.05   |
| Eastern Shore                                       | 9.71  | 1.09   |
| Western Shore                                       | 9.74  | 0.46   |
| Patuxent  | 2.85  | 0,21   |
| Potomac   | 15.70   | 0.90   |
| MD Total  | 39.09   | 2.72   |
| VIRGINIA  |   |  |
| Eastern Shore                                       | 1.21  | 0.16   |
| Potomac   | 17.46   | 1.47   |
| Rappahannock  | 5,84  | 0.90   |
| York  | 5.41  | 0.54   |
| James   | 23.48   | 2.34   |
| VA Total  | 53.40   | 5.41   |
| DISTRICT OF COLUMBIA                                |   |  |
| Potomac   | 2.32  | 0.12   |
| DC Total  | 2,32  | 0.12   |
|   |   | 140-   |
| NEW YORK  |   |  |
| Susquehanna   | 8.23  | 0.52   |
| NY Total  | 8.23  | 0.52   |
| DELAWARE  |   |  |
| Eastern Shore                                       | 2.95  | 0,26_  |
| DE Total  | 2.95  | 0.26   |
| WEST VIRGINIA                                       |   |  |
| Potomac   | 4.67  | 0.74   |
| James   | 0.02  | 0.01   |
| WV Total  | 4.68  | 0.75   |
| Total Basin/Jurisdiction Draft Allocation           | 187.44  | 12,52  |
| tmospheric Deposition Draft Allocation <sup>2</sup> | 15.70   | Pa   |
|   |   |  |

<sup>&</sup>lt;sup>2</sup> Cap on atmospheric deposition loads direct to Chesapeake Bay and tidal tributary surface waters to be achieved by federal air regulations through 2020.

| Table 3.<br>Chesapeake Bay Watershed Nitrogen and Phosphorus<br>Temporary Reserve by Jurisdiction <sup>3</sup> |  |   |
|--|--|---|
| Jurisdiction/Basin   | Nitrogen Temporary Reserve (million pounds per year) | Phosphorus Temporary Reserve<br>(million pounds per year) |
|  |  |   |
| PENNSYLVANIA   | 3.84   | 0.14  |
| MARYLAND   | 1.95   | 0.14  |
|  |  |   |
| VIRGINIA   | 2.67   | 0.27  |
| DISTRICT OF COLUMBIA   | 0.12   | 0.01  |
| NEW YORK   | 0.41   | 0.03  |
| DELAWARE   | 0.15   | 0.01  |
| WEST VIRGINIA  | 0.23   | 0.04  |
| TOTAL<br>TEMPORARY RESERVE   | 9.37   | 0.63  |

<sup>&</sup>lt;sup>3</sup> EPA has included a Temporary Reserve of 5 percent for each jurisdiction that will be applied for purposes of Watershed Implementation Plan development and incorporating "contingency actions" necessary to meet allocations.



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

AUG 1 3 2010

The Honorable Doug Domenech Secretary of Natural Resources 1111 East Broad Street Richmond, Virginia 23219

Dear Secretary Domenech:

Thank you for your continued commitment to the development of the Chesapeake Bay Total Maximum Daily Load (TMDL) and Watershed Implementation Plans (WIPs). The Environmental Protection Agency (EPA) is providing the enclosed draft sediment allocations, expressed as total suspended solids (TSS), as one of the remaining steps in the path to developing the draft Chesapeake Bay TMDL. The draft allocations of sediment are for your use in development of your WIP. EPA is committed to establishing the final TMDL by the end of 2010, and encourages the states and the District of Columbia to put forth comprehensive WIPs that will identify all necessary actions to fully restore the Bay and its tidal tributaries. EPA and the Chesapeake Bay Executive Council have committed to having all restoration actions completed by no later than 2025, with an interim goal to have sufficient practices in place by 2017 to achieve 60% or more of the total necessary load reductions.

States with tidal Bay waters and the District of Columbia have established Chesapeake Bay water quality standards (WQS) for both water clarity and submerged aquatic vegetation (SAV). The SAV standards are based on a long historical record of observed SAV acreage and assign an SAV goal for each Bay segment. Recent surveys show that the Chesapeake Bay is currently achieving 46% of the Bay-wide SAV goal of 185,000 acres.

A key step in the TMDL process is the establishment of sediment allocations that will restore the health of the Bay and its tidal rivers and streams. The Bay TMDL does not replace the need to set targets for local stream impairments due to sediment throughout the watershed. Our analysis points to the fact that there is a close and consistent relationship between nutrient and sediment controls. This analysis indicates that there is a great amount of commonality and co-benefit of controlling nutrients in the Bay watershed and the reduction of sediment loadings to meet Bay water quality standards. EPA has utilized the strength of this relationship in the draft allocations.

#### Sediment Allocations and Potential for Modification

The sediment allocations are part of the Bay TMDL needed to achieve the SAV WQS in the tidal waters. To provide the jurisdictions with some flexibility in developing their draft WIPs, the draft sediment allocations are being initially expressed as a range for each of the jurisdictions and major river basins. The Bay-wide range in sediment allocations is 6.1 to 6.7 billion pounds per year (bpy) of TSS. The enclosed tables detail the specific basin-jurisdictions draft allocation ranges for sediment at both the jurisdiction and river basin level.

Informed by the draft WIPs, EPA's draft TMDL will assign a single allocation for each of the 92 segments as well as allocations to the contributing jurisdictions. EPA will assess the WIPs to ensure that the distribution of the sediment loads will attain the SAV WQS in all 92 segments. If EPA determines that the draft WIP distributes the sediment load in a manner that does not achieve WQS, EPA will work closely with each jurisdiction to resolve the matter. Resolution may include redistribution of the loading within the basin or among the segments, and/or implementation commitments in the Phase I or Phase II WIPs. EPA also may modify these draft sediment allocations in the final TMDL to reflect input received during the TMDL public comment period. The final Bay TMDL will be based on public input, the jurisdictions' final WIPs, and additional attainment analysis to confirm that the final assigned sediment allocations will achieve WQS.

#### **EPA Expectations for WIPs**

EPA recognizes that the time allowed to develop draft WIPs to achieve the sediment allocations is very short. The range has been proposed to provide jurisdictions with some flexibility in developing draft WIPs. In addition, the range represents loads expected to be achievable through full implementation of nutrient management practices necessary to attain the draft nitrogen and phosphorus allocations issued on July 1, 2010. Finally, in many basins the range captures the level of effort states have previously proposed through earlier Tributary Strategies.

It is EPA's expectation that each jurisdiction will include implementation strategies in the Phase I WIPs that will achieve a sediment allocation within the range assigned for river basins and jurisdictions. The final WIP submission is expected to show attainment of the sediment and nutrient allocations of the TMDL.

As stated in the July 1, 2010 letter, EPA has articulated its expectations for the jurisdictions' WIPs in correspondence issued on November 4, 2009, in the April 2, 2010 document entitled A Guide for EPA's Evaluation of Phase I Watershed Implementation Plans, and through periodic calls and webinars. EPA will rely upon the expectations described in this previous correspondence to determine the adequacy of the jurisdictions' WIP submittals.

Furthermore, as indicated in past correspondence, EPA is prepared take appropriate federal action in the event that there are shortfalls in jurisdictions' efforts to develop and implement acceptable WIPs for sediment and nutrients.

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#### **Schedule**

With this letter, EPA presents a range of sediment allocations for the basin-jurisdictions. Jurisdictions are to use this range of sediment allocations to develop their draft Phase I WIPs to be submitted to EPA on September 1, 2010. EPA expects that jurisdictions will provide sufficient detail in their WIPs to show how point and nonpoint source loads are distributed among the 92 Bay segments. The information contained in these draft WIPs will inform EPA in establishing a specific set of sediment allocations that will be included in the draft TMDL to be released on September 24, 2010 for a 45-day public comment period. Following the completion of the public comment period, EPA expects the jurisdictions to revise their WIPs as necessary and submit final Phase I WIPs to EPA by November 29, 2010. As noted, EPA will establish a final TMDL by December 31, 2010. EPA expects the jurisdictions to submit their Phase II and III WIPs according to the schedule included in the letter of June 11, 2010.

I appreciate the extensive efforts of you and your staff to complete the important tasks of defining effective Watershed Implementation Plans to meet these goals and for engaging the Bay and local watershed stakeholders in this process. I pledge our continued cooperation and support in this regard. Should you have any questions regarding the draft sediment allocation ranges presented in this letter or the TMDL development process, please do not hesitate to contact me or have your staff contact Mrs. LaRonda Koffi, EPA's Virginia Liaison, at 215-814-5374.

Sincerely,

Shawn M. Garvin Regional Administrator

#### **Enclosures**

Table 1 - Chesapeake Bay Watershed Sediment Draft Allocation by Basin

Table 2 - Chesapeake Bay Watershed Sediment Draft Allocation by Jurisdiction

cc: State and D.C. Agency PSC Representatives

| Sediment Allocation Range   | Table 1.<br>Chesapeake Bay Watershed Sediment Draft Allocations by Basin |                           |  |
|---|--|---------------------------|--|
| SUSQUEHANNA   293-322   PA  |  | Sediment Allocation Range |  |
| NY  |  |                           |  |
| PA 1,660-1,826 MD 60-68 SUSQUEHANNA Total 2,013-2,214  EASTERN SHORE  DE 58-64 MD 166-182 PA 21-23 VA 11-12 EASTERN SHORE Total 256-281  WESTERN SHORE MD 155-170 PA 0,37-0,41 WESTERN SHORE Total 155-171  PATUXENT MD 82-90 PATUXENT MD 82-90 PATUXENT Total 82-90  POTOMAC PA 221-243 MD 654-719 DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK VA 681-750 RAPPAHANNOCK Total 681-750 VA 107-118 YORK VA 107-118 YORK TOTAL 155-17   |  | 293-322                   |  |
| MD 60-66 SUSQUEHANNA Total 2,013-2,214  EASTERN SHORE  DE 58-64 MD 166-182 PA 21-23 VA 11-12 EASTERN SHORE 11-12 EASTERN SHORE Total 256-281  WESTERN SHORE MD 155-170 PA 0,37-0,41 WESTERN SHORE 155-171  PATUXENT MD 82-90 PATUXENT MD 82-90 PATUXENT Total 82-90  POTOMAC PA 221-243 MD 654-719 DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK Total 681-750  YORK VA 681-750  YORK VA 107-118 YORK Total 107-118 YORK Total 107-118 YORK Total 107-118 YORK 15-17   |  |                           |  |
| SUSQUEHANNA Total   2,013-2,214   | 4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-                                   |                           |  |
| Bastern Shore   |  |                           |  |
| DE         58-64           MD         166-182           PA         21-23           VA         11-12           EASTERN SHORE Total         256-281           WESTERN SHORE         WESTERN SHORE           MD         155-170           PA         0.37-0.41           WESTERN SHORE Total         155-171           PATUXENT           MD         82-90           PATUXENT Total         82-90           POTOMAC           PA         221-243           MD         654-719           DC         10-11           VA         810-891           WV         226-248           POTOMAC Total         1,920-2,113           RAPPAHANNOCK           VA         681-750           YORK           VA         107-118           YORK Total           VA         107-118           YA           WV         15-17 |  |                           |  |
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| VA  |  | 21-23                     |  |
| WESTERN SHORE           MD         155-170           PA         0.37-0.41           WESTERN SHORE Total         155-171           PATUXENT           MD         82-90           POTOMAC           PA         221-243           MD         654-719           DC         10-11           VA         810-891           WV         226-248           POTOMAC Total         1,920-2,113           RAPPAHANNOCK           VA         681-750           RAPPAHANNOCK Total         681-750           YORK           VA         107-118           YORK Total         107-118           JAMES         VA           WV         15-17  |  | 11-12                     |  |
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| MD 155-170 PA 0.37-0.41 WESTERN SHORE Total 155-171  PATUXENT MD 82-90 PATUXENT Total 82-90  POTOMAC PA 221-243 MD 654-719 DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK VA 681-750 RAPPAHANNOCK Total 681-750  YORK VA 107-118 YORK Total 107-118  JAMES VA 837-920 WV 15-17  | WESTERN SHORE  | •                         |  |
| PA 0.37-0.41  WESTERN SHORE Total 155-171  PATUXENT  MD 82-90  PATUXENT Total 82-90  POTOMAC  PA 221-243  MD 654-719  DC 10-11  VA 810-891  WV 226-248  POTOMAC Total 1,920-2,113  RAPPAHANNOCK  VA 681-750  RAPPAHANNOCK Total 681-750  YORK  VA 107-118  YORK Total 107-118  JAMES  VA 837-920  WV 15-17  |  | 155-170                   |  |
| WESTERN SHORE Total   155-171   |  |                           |  |
| MD       82-90         PATUXENT Total       82-90         POTOMAC         PA       221-243         MD       654-719         DC       10-11         VA       810-891         WV       226-248         POTOMAC Total       1,920-2,113         RAPPAHANNOCK         VA       681-750         YORK         VA       107-118         YORK Total       107-118         YORK Total         JAMES       VA         WV       15-17  |  |                           |  |
| MD   82-90     PATUXENT Total   82-90     POTOMAC     PA  | DATHYENT   |                           |  |
| POTOMAC  PA 221-243  MD 654-719  DC 10-11  VA 810-891  WV 226-248  POTOMAC Total 1,920-2,113  RAPPAHANNOCK  VA 681-750  RAPPAHANNOCK Total 681-750  YORK  VA 107-118  YORK Total 107-118  YORK Total 107-118  YORK 837-920  WV 15-17  |  | 82-90                     |  |
| PA 221-243 MD 654-719 DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK VA 681-750 RAPPAHANNOCK Total 681-750  YORK VA 107-118 YORK Total 107-118  YA 837-920 WV 15-17   |  |                           |  |
| PA 221-243 MD 654-719 DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK VA 681-750 RAPPAHANNOCK Total 681-750  YORK VA 107-118 YORK Total 107-118  YORK Total 15-17  | POTOHAC  |                           |  |
| MD 654-719 DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK VA 681-750 RAPPAHANNOCK Total 681-750  YORK VA 107-118 YORK 107-118  JAMES VA 837-920 WV 15-17  |  | 204.242                   |  |
| DC 10-11 VA 810-891 WV 226-248 POTOMAC Total 1,920-2,113  RAPPAHANNOCK VA 681-750 RAPPAHANNOCK Total 681-750  YORK VA 107-118 YORK Total 107-118 YORK Total 837-920 WV 15-17  |  |                           |  |
| VA     810-891       WV     226-248       POTOMAC Total     1,920-2,113       RAPPAHANNOCK       VA     681-750       RAPPAHANNOCK Total     681-750       YORK       VA     107-118       YORK Total     107-118       JAMES       VA     837-920       WV     15-17   |  |                           |  |
| WV       226-248         POTOMAC Total       1,920-2,113         RAPPAHANNOCK         VA       681-750         RAPPAHANNOCK Total       681-750         YORK         VA       107-118         YORK Total       107-118         JAMES         VA       837-920         WV       15-17  |  |                           |  |
| POTOMAC Total 1,920-2,113  RAPPAHANNOCK  VA 681-750  RAPPAHANNOCK Total 681-750  YORK  VA 107-118  YORK 107-118  YORK Total 107-118  JAMES  VA 837-920  WV 15-17  |  |                           |  |
| RAPPAHANNOCK       VA     681-750       RAPPAHANNOCK Total     681-750       YORK       VA     107-118       YORK Total     107-118       JAMES       VA     837-920       WV     15-17   |  |                           |  |
| VA     681-750       RAPPAHANNOCK Total     681-750       YORK     107-118       VA     107-118       YORK Total     107-118       JAMES       VA     837-920       WV     15-17  | POTOMAC Total  | 1,920-2,113               |  |
| YORK       VA       107-118         YORK Total       107-118         YORK Total       107-118         JAMES       VA         VA       837-920         WV       15-17  |  |                           |  |
| YORK  VA 107-118  YORK Total 107-118  JAMES  VA 837-920  WV 15-17   |  |                           |  |
| VA     107-118       YORK Total     107-118       JAMES       VA     837-920       WV     15-17   | RAPPAHANNOCK Total   | 681-750                   |  |
| VA     107-118       YORK Total     107-118       JAMES       VA     837-920       WV     15-17   | YORK   |                           |  |
| YORK Total 107-118  JAMES  VA 837-920  WV 15-17   | · · · · · · · · · · · · · · · · · · ·                                    | 107-118                   |  |
| VA 837-920<br>WV 15-17  | YORK Total   |                           |  |
| VA 837-920<br>WV 15-17  | JAMES  |                           |  |
| WV 15-17  |  | 837-920                   |  |
|   |  |                           |  |
| D/ 4/4/2-0 1 0/01   | JAMES Total  | 852-937                   |  |
| Total Basinwide Draft Allocation <sup>1</sup> 6,066-6,673   | Total Designated Dest Allegation 1                                       | C 000 C 672               |  |

The basinwide allocation range rounds up to 6.1-6.7 billion pounds per year.

|  | Sediment Draft Allocations by Jurisdiction   |  |
|--|--|--|
| Jurisdiction/Basin                           | Sediment Allocation Range  |  |
| Jurisdiction/basin                           | (million pounds total suspended solids (TSS) per   |  |
| PENNSYLVANIA                                 |  |  |
| Susquehanna                                  | 1,660-1,826  |  |
| Potomac                                      | 221-243  |  |
| Eastern Shore                                | 21-23  |  |
| Western Shore                                | 0.37-0.41  |  |
| PA Total                                     | 1,903-2,093  |  |
| MARYLAND                                     |  |  |
| Susquehanna                                  | 60-66  |  |
| Eastern Shore                                | 166-182  |  |
| Western Shore                                | 155-170  |  |
| · Patuxent                                   | 82-90  |  |
| Potomac                                      | 654-719  |  |
| MD Total                                     | 1,116-1,228  |  |
| VIRGINIA                                     |  |  |
| Eastern Shore                                | 11-12  |  |
| Potomac                                      | 810-891  |  |
| Rappahannock                                 | 681-750  |  |
| York   | 107-118  |  |
| James  | 837-920  |  |
| VA Total                                     | 2,446-2,691  |  |
| DISTRICT OF COLUMBIA                         |  |  |
| Potomac                                      | 10-11  |  |
| DC Total                                     | 10-11  |  |
| NEW YORK                                     | and the section of th |  |
| Susquehanna                                  | 293-322  |  |
| NY Total                                     | 293-322  |  |
| DELAWARE                                     |  |  |
| Eastern Shore                                | 58-64  |  |
| DE Total                                     | 58-64  |  |
| WEST VIRGINIA                                |  |  |
| Potomac                                      | 226-248  |  |
| James  | 15-17  |  |
| WV Total                                     | 241-265  |  |
| otal Basinwide Draft Allocation <sup>2</sup> | 6,066-6,673  |  |

<sup>&</sup>lt;sup>2</sup> The basinwide allocation range rounds up to 6.1-6.7 billion pounds per year.